

ABSTRACT OF THE DISCLOSURE

A semiconductor laser basically includes a first cladding layer; an active layer; a second cladding layer; and a current constriction means for defining a current injection region in the active layer. The active layer has a gain region which acquires an optical gain by current injection thereto; a saturable absorption region in which current injection thereto little occurs and light effusion thereto occurs; and an outside region, being in contact with the saturable absorption region, in which current injection thereto little occurs and light effusion thereto little occurs. In this semiconductor laser, an effective band gap of the saturable absorption region is set to be larger than that of the outside region. With this configuration, carriers in the saturable absorption region are efficiently migrated to the outside region, so that the carrier lifetime in the saturable absorption region is actually shortened. As a result, the semiconductor laser can sustain the self pulsation at a high light output and a high operational temperature, and further can be produced with a good production yield.